

THE LELAND ELECTRIC COMPANY

DAYTON, OHIO

Durability, dependability and quiet running have long been three outstanding characteristics of Leland Motors. These three essentials have, perhaps, done more than any others to establish for Leland Motors, world-wide reputation.



Leland "Type A" Sleeve-bearing Motors

Characterized by durability and dependability, represented by a compact design, attractive in appearance, cool in operation and ability to stand up under abnormal load conditions. Design features—A circulating, filtering, lubrication system which slowly circulates the oil in the waste packed bearing supplying clean filtered oil to the bearings at all times. Prime wool of best quality, saturated with fluid oil is used. Circulation is continuous, and oil is filtered after each trip to the bearing.

May be operated in normal position, inverted, or with left or right wall mounting, but not vertical. Brush-riding type, employing a cartridge brush in fixed position to provide positive starting torque of approximately four times full load rating. Brushes are the most durable known, so insulated that in the single-phase repulsion-induction design straight current cannot pass through the bearing.

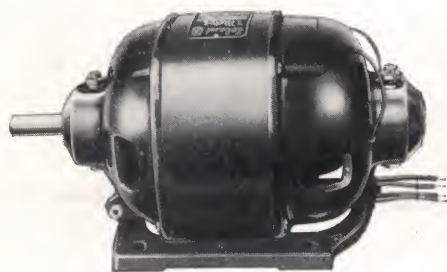
Recommended for general application requiring long life, quiet operation and durability in adverse conditions. These motors require very little attention.



Vapor-resisting Motors for Gasoline Pump and Use in Hazardous Atmospheres

Sleeve and ball bearing designs. Sleeve-bearing motors designed for belt or chain drive and direct horizontal connection. Ball-bearing motors provide for end thrust of shaft when used for direct vertical drive and occasional use in certain horizontal belt and chain drives.

Several distinctive safety features are incorporated in addition to those specified by the Underwriters. For instance, the insulated brushes prevent circulation of stray current through end casings and motor bearings, eliminates jumping of sparks and hazard of exploding fumes, also prevents frozen bearings and burnt-out motors, a frequent result of the destructive carbonization of lubricating oil due to arcing. Short circuiting device effectively absorbs the heat of the arc which may be formed, preventing oxidation and melting of copper contacts so destructive to the usual forms of these devices. These motors are unsurpassed in their ability to stand up under the extreme service of constantly starting and stopping.



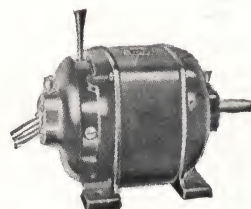
Refrigerator and Oil Burner Motors

Increased quietness is accomplished in these motors by a concentrically assembled endless garter spring mounted between hub of bearing housing and outer race support in much the same manner as balls are carried between inner and outer race of a ball bearing. This spring retains its form and position against belt pull, weight, and other forms of thrust. Two spiral wound compression springs, located on either side of end bell, take abnormal starting torque in a resilient manner, returning motor position to normal after force of starting torque has been spent. Motor supported concentrically by the spiral wound endless garter spring, and also prevented from rotating in cradle mounting by compression springs.

There is no rigid direct mounting between the working elements (between wound rotor, stator, bearing, etc., and the base on which the motor rests). All tendency towards noise is isolated within the frame proper and is not transmitted to the base. There are no materials used that are subject to distortion, compression, solution under action of oil, or hardening due to heat. The so-called 60-cycle hum (magnetic hum) within the laminated structure is eliminated.

A reliable new brush-lifting mechanism of unusual simplicity is mounted directly on commutator end of motor.

These motors have demonstrated their merits by use—practically no service required.



Ball Bearing Motors

Duplicate of Type A above except ball bearing instead of sleeve. Used to meet special conditions, as where mounting space is limited, where provision for end thrust is necessary, and for vertical installations. Compact; rugged; reliable. Bearings mounted in leak-proof housings. Small stocks at principal distributing points. Larger requirements to order.



Variable Speed Motors

Special frame brush shifting motors. Extensively used on automotive test stands, on printing press applications, etc. Brushes dependable. Thousands of such motors in use for years. Speed variable from 600 to 3000 r.p.m. Available in ratings from $\frac{1}{4}$ to 1 hp. Complete description of application must accompany inquiry or order.

Electric Reversible Motors

Built in all standard frames. Reversal accomplished by double-throw single-pole switch. Three leads to motor. For electric hoists, garage doors, escalators, and similar devices for essentially intermittent service. Can be built for continuous service by increasing frame size for ratings. Especially reliable under extreme load.

Generator and Alternator Sets

Three-bearing construction. Flexible connection between motor and generator—no troubles due to long suspension between bearings as in 2-bearing design. Generator ratings, $\frac{1}{20}$ to $\frac{3}{4}$ kw.; alternators in corresponding volt-ampere ratings.

D.C. Motors for Oil Burners, Radios, Etc.

D.C. Motors with inverted rotary connections. Meeting growing demand. Leland has provided single-phase slip-ring connection which will temporarily supply alternating current on motors used primarily for oil burner drive. However, if mechanical power and current delivery are both used, total load must not exceed equivalent rating of the frame. Suitable also for supplying continuous A.C. when mechanical power is not required.

A.C. ratings always on volt-ampere basis and full advice should accompany inquiry as to continuity and nature of service required. Supply complete details with inquiry.